

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (original) A slot door assembly for a freeze dryer, the assembly comprising a slot door for closing a slot formed in a chamber of the freeze dryer, moving means for moving the door in a direction transverse to the slot to permit access to the chamber, and rotating means for rotating the door as it is moved transverse to the slot.
2. (original) An assembly according to claim 1, wherein the rotating means further comprises means for engaging the door as it is moved away from the slot.
3. (original) An assembly according to claim 1, wherein the rotating means comprises a cam attached to the door for engaging a curved guide to cause the door to rotate.
4. (original) An assembly according to claim 3, wherein the moving means is arranged to move the door from a first closed position to a second open position at which the cam engages the guide.
5. (original) An assembly according to claim 4, wherein the slot is exposed by the door when the door is in the second opened position.
6. (original) An assembly according to claim 4, further comprising stopping means for stopping the moving means at the second open position.
7. (original) An assembly according to claim 4, comprising means for stopping the moving means at a third open position of the door following rotation thereof.
8. (original) An assembly according to claim 3, wherein the cam is attached to an arm

connected at one end thereof to the door.

9. (original) An assembly according to claim 8, wherein the cam comprises a roller rotatably mounted on the arm.

10. (original) An assembly according to claim 1, wherein the moving means engages a pivot of the door.

11. (original) An assembly according to claim 10, wherein the pivot is connected to the door towards one end thereof so as to cause the other end of the door to swing away from the chamber as the door is moved away from the slot.

12. (original) An assembly according to claim 10, wherein the pivot passes through an aperture formed in the moving means.

13. (original) An assembly according to claim 10, wherein the moving means is arranged to move the pivot at a constant rate during both rotational and non-rotational movement of the door.

14. (original) An assembly according to claim 1, wherein the moving means comprises means for raising and lowering the door.

15. (original) An assembly according to claim 1, comprising means for isolating at least part of the moving means from ambient atmosphere.

16. (original) An assembly according to claim 1 further including a freeze dryer having a chamber and a slot formed in the chamber for providing access to the chamber.

17. (new) A slot door assembly for a freeze dryer comprising:

a slot door for covering a slot formed in the freeze dryer, the slot door comprising an inner side facing the slot;

a moving mechanism connected to the slot door for vertically moving the slot door from a closed position to an open position; and

a rotating mechanism connected to the slot door for rotating the slot door from an open position to a cleaning position, thereby exposing the inner side of the slot door.

18. (new) The slot door assembly of claim 17 wherein the moving mechanism comprises a drive motor.

19. (new) The slot door assembly of claim 18 wherein the moving mechanism further comprises a gear assembly connected to the drive motor.

20. (new) The slot door assembly of claim 19 wherein the moving mechanism further comprises a drive shaft connected to the drive motor and wherein a first end of the drive shaft is connected to a plurality of first gear wheels and wherein a second end of the drive shaft is proximate to a plurality of second gear wheels.

21. (new) The slot door assembly of claim 20 wherein the moving mechanism further comprises a first lead screw positioned on one of the first gear wheels and a second lead screw positioned on one of the second gear wheels.

22. (new) The slot door assembly of claim 21 wherein the moving mechanism further comprises a first pivot pin connected to the slot door and positioned to engage the first lead screw and a second pivot pin connected to the slot door and positioned to engage the second lead screw.

23. (new) The slot door assembly of claim 17 wherein the rotating mechanism comprises a cam mechanism.

24. (new) The slot door assembly of claim 23 wherein the cam mechanism comprises a cam roller connected to the slot door and positioned to engage a cam track.

25. (new) The slot door assembly of claim 24 wherein the cam track is curved.

26. (new) The slot door assembly of claim 17 further comprising a controller for moving and rotating the slot door.

27. (new) The slot door assembly of claim 26 further comprising a first sensor positioned to detect the slot door in the closed position, wherein the first sensor outputs a first signal to the controller.

28. (new) The slot door assembly of claim 26 further comprising a second sensor positioned to detect the slot door in the open position, wherein the second sensor outputs a second signal to the controller.

29. (new) The slot door assembly of claim 26 further comprising a third sensor positioned to detect the slot door in the cleaning position, wherein the third sensor outputs a third signal to the controller.

30. (new) The slot door assembly of claim 24 wherein the cam roller engages the cam track when the slot door is in the open position.

31. (new) The slot door assembly of claim 17 wherein the slot door moves from the closed position to the cleaning position in a single movement.

32. (new) The slot door assembly of claim 17 wherein the moving mechanism comprises a lead screw for moving the slot door between the closed position and the open position.

33. (new) The slot door assembly of claim 17 wherein the moving mechanism comprises a lead screw for moving the slot door between the closed position and the cleaning position.